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**‘Professionalism, Policy and Practice: Exploring the Relationship between Theory and Practice in Housing Studies’
Housing Studies Association Conference 2018, 11th-13th April, Sheffield**

Mapping the ontology of housing politics

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StudioUrbanArea^{LLP}

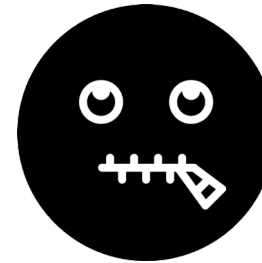


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Conflicting definition(s) of social housing



Explicit	Tacit
Governance model Organisational structures, legal entities and supporting management structure, including board membership.	Housing ownership / tenure Perceptions of ownership and degree of mixed tenure, including basis of stock transfer, and arms-length management.
Regulatory controls Statutory /mandated and associated advisory operational standards	Dependency Relationship with the wider social welfare system, including security of tenancy, need for management /maintenance support
Funding Scope and extent of governmental funding, including application of private funding (private finance initiative), provision of tenant empowerment grants.	Technical language Use of overtly technical language with organisational specific definitions / meanings

Benefits of producing an ontology of social housing

Clarity around a common definition

Requires shared ownership with 'domain experts' and 'open source' platform to support collaboration.

SQL language for filtering, aggregation and extraction for relationship database management with Protégé for development of shared ontology and structuring into OWL.

Associated semantic meaning



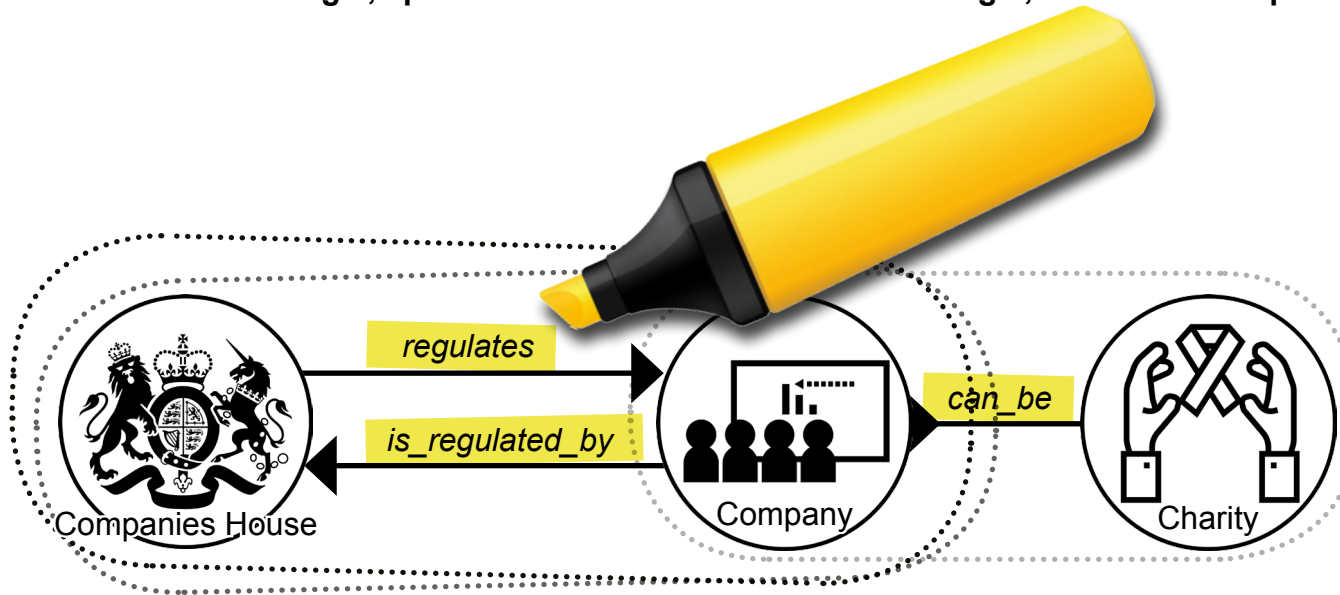
Wider applications for linking 'relational' database(s) & data mining

Accessing 'Big data' sets with a mix of descriptive and predictive characteristics. Descriptive ... descriptive parameters and associated metadata. Predictive ... variable 'predictor'. Supervised predictions based on 'true' historical data and patterns to allow for machine learning and regression analysis techniques. Unsupervised lacks historical data and requires interpretation in the form of predictive algorithms. Thus ... analysis requires a methodology suited to the form of data collected and / or mined.

Basis of ontology

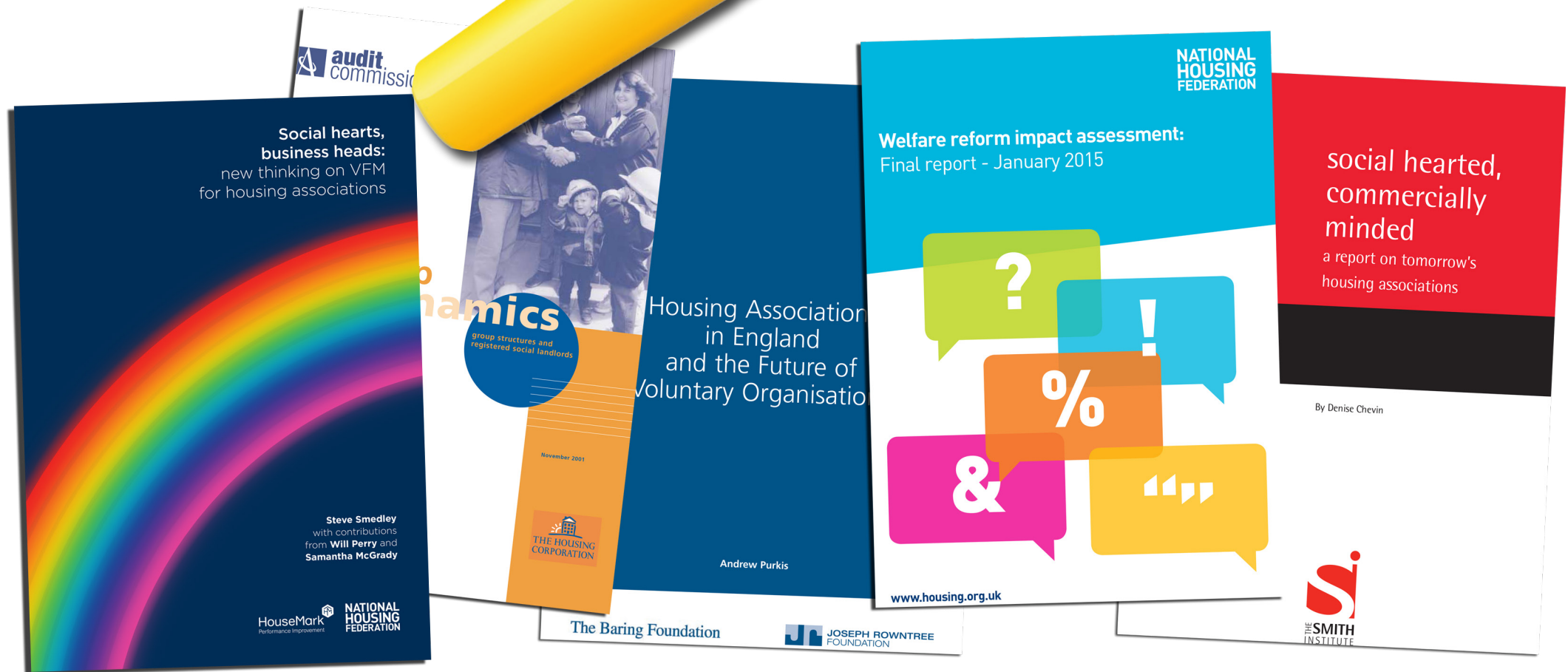
Clarity around a common definition

General characteristics or attributes 'things', specific characteristics 'sub-set of things', and relationships between them.

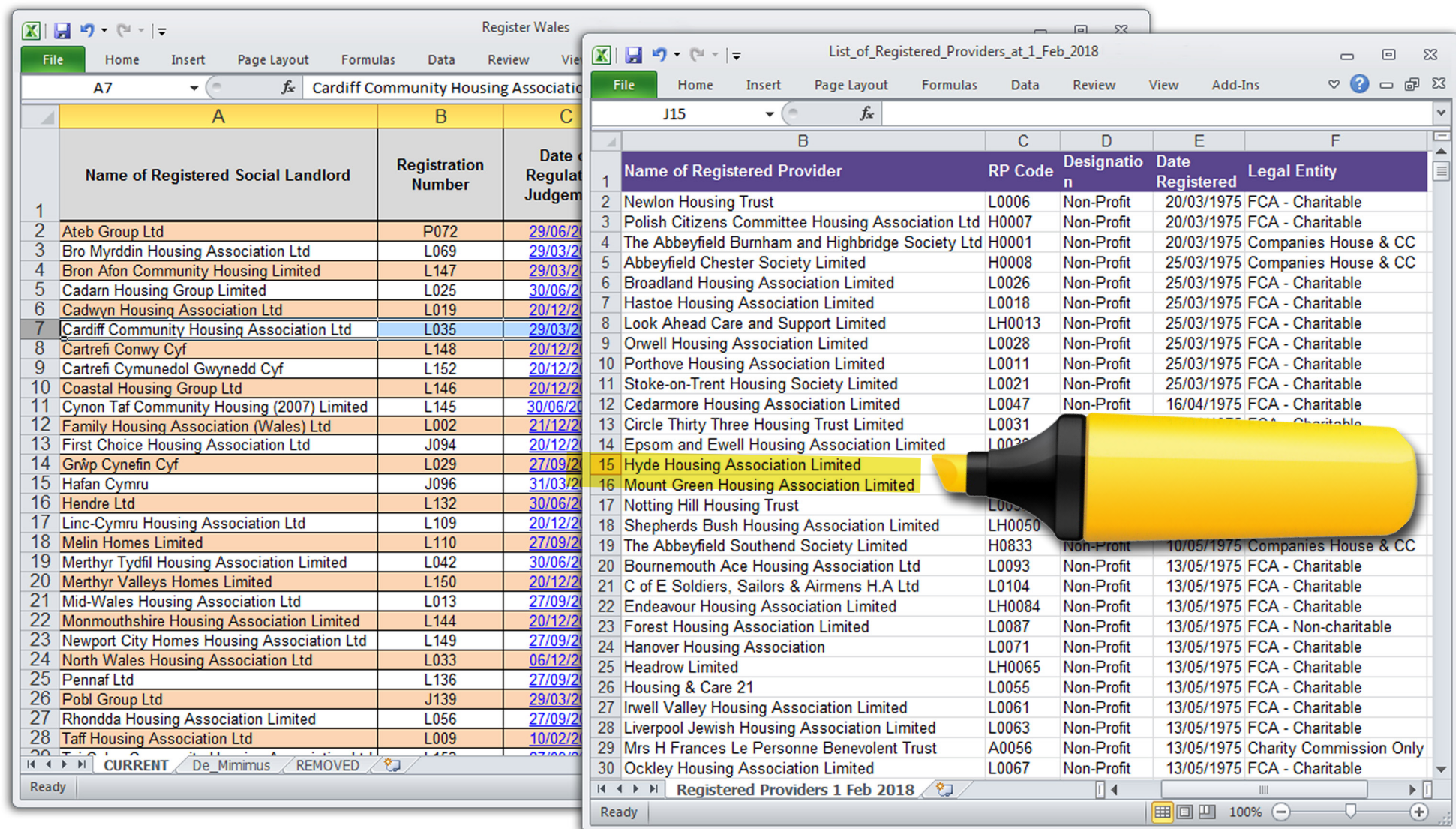


We have initially defined the general (class) and specific (sub-class) of social housing and then described the relationship between the characteristics and associated attributes as a triple where the triplet is a clear binary relationship that includes a 'subject' (the object described by the triplet), a 'predicate' (defines the data within the object being given a value), and an 'object' (the value). Within the coding classification, this approach allows for the development of an RDF file, and the relational structure of the information leads to appropriate and functional data mining algorithms based on the structure of the ontology within standardised RDF (resource description language) and OWL (web ontology language).

Knowledge of 'social housing' domain - Practitioner / policy guidance



Knowledge of 'social housing' domain - Registered providers list(s)




The image displays two overlapping Excel spreadsheets. The left spreadsheet, titled 'Register Wales', shows a list of registered social landlords with columns for Name, Registration Number, and Date of Regulation Judgement. The right spreadsheet, titled 'List_of_Registered_Providers_at_1_Feb_2018', provides more detailed information including RP Code, Designation, Date Registered, and Legal Entity. A yellow highlighter is pointing to 'Hyde Housing Association Limited' in the right spreadsheet.

Name of Registered Social Landlord	Registration Number	Date of Regulation Judgement
Ateb Group Ltd	P072	29/06/2012
Bro Myrddin Housing Association Ltd	L069	29/03/2012
Bron Afon Community Housing Limited	L147	29/03/2012
Cadam Housing Group Limited	L025	30/06/2012
Cadwyn Housing Association Ltd	L019	20/12/2012
Cardiff Community Housing Association Ltd	L035	29/03/2012
Cartrefi Conwy Cyf	L148	20/12/2012
Cartrefi Cymunedol Gwynedd Cyf	L152	20/12/2012
Coastal Housing Group Ltd	L146	20/12/2012
Cynon Taf Community Housing (2007) Limited	L145	30/06/2012
Family Housing Association (Wales) Ltd	L002	21/12/2012
First Choice Housing Association Ltd	J094	20/12/2012
Gŵp Cynefin Cyf	L029	27/09/2012
Hafan Cymru	J096	31/03/2012
Hendre Ltd	L132	30/06/2012
Linc-Cymru Housing Association Ltd	L109	20/12/2012
Melin Homes Limited	L110	27/09/2012
Merthyr Tydfil Housing Association Limited	L042	30/06/2012
Merthyr Valleys Homes Limited	L150	20/12/2012
Mid-Wales Housing Association Ltd	L013	27/09/2012
Monmouthshire Housing Association Limited	L144	20/12/2012
Newport City Homes Housing Association Ltd	L149	27/09/2012
North Wales Housing Association Ltd	L033	06/12/2012
Pennaf Ltd	L136	27/09/2012
Pobl Group Ltd	J139	29/03/2012
Rhondda Housing Association Limited	L056	27/09/2012
Taff Housing Association Ltd	L009	10/02/2012

Name of Registered Provider	RP Code	Designation	Date Registered	Legal Entity
Newlon Housing Trust	L0006	Non-Profit	20/03/1975	FCA - Charitable
Polish Citizens Committee Housing Association Ltd	H0007	Non-Profit	20/03/1975	FCA - Charitable
The Abbeyfield Burnham and Highbridge Society Ltd	H0001	Non-Profit	20/03/1975	Companies House & CC
Abbeyfield Chester Society Limited	H0008	Non-Profit	25/03/1975	Companies House & CC
Broadland Housing Association Limited	L0026	Non-Profit	25/03/1975	FCA - Charitable
Hastoe Housing Association Limited	L0018	Non-Profit	25/03/1975	FCA - Charitable
Look Ahead Care and Support Limited	LH0013	Non-Profit	25/03/1975	FCA - Charitable
Orwell Housing Association Limited	L0028	Non-Profit	25/03/1975	FCA - Charitable
Porthove Housing Association Limited	L0011	Non-Profit	25/03/1975	FCA - Charitable
Stoke-on-Trent Housing Society Limited	L0021	Non-Profit	25/03/1975	FCA - Charitable
Cedarmore Housing Association Limited	L0047	Non-Profit	16/04/1975	FCA - Charitable
Circle Thirty Three Housing Trust Limited	L0031	Non-Profit	16/04/1975	FCA - Charitable
Epsom and Ewell Housing Association Limited	L0038	Non-Profit	16/04/1975	FCA - Charitable
Hyde Housing Association Limited	L0039	Non-Profit	16/04/1975	FCA - Charitable
Mount Green Housing Association Limited	L0040	Non-Profit	16/04/1975	FCA - Charitable
Notting Hill Housing Trust	L0041	Non-Profit	16/04/1975	FCA - Charitable
Shepherds Bush Housing Association Limited	LH0050	Non-Profit	10/05/1975	Companies House & CC
The Abbeyfield Southend Society Limited	H0833	Non-Profit	10/05/1975	Companies House & CC
Bournemouth Ace Housing Association Ltd	L0093	Non-Profit	13/05/1975	FCA - Charitable
C of E Soldiers, Sailors & Airmens H.A Ltd	L0104	Non-Profit	13/05/1975	FCA - Charitable
Endeavour Housing Association Limited	LH0084	Non-Profit	13/05/1975	FCA - Charitable
Forest Housing Association Limited	L0087	Non-Profit	13/05/1975	FCA - Non-charitable
Hanover Housing Association	L0071	Non-Profit	13/05/1975	FCA - Charitable
Headrow Limited	LH0065	Non-Profit	13/05/1975	FCA - Charitable
Housing & Care 21	L0055	Non-Profit	13/05/1975	FCA - Charitable
Irwell Valley Housing Association Limited	L0061	Non-Profit	13/05/1975	FCA - Charitable
Liverpool Jewish Housing Association Limited	L0063	Non-Profit	13/05/1975	FCA - Charitable
Mrs H Frances Le Personne Benevolent Trust	A0056	Non-Profit	13/05/1975	Charity Commission Only
Ockley Housing Association Limited	L0067	Non-Profit	13/05/1975	FCA - Charitable

Protégé - OWL classification of Legal_entity



Class Hierarchy

- owl:Thing
 - Advisory_body
 - Community_land_trust
 - Governing_legislation
 - Delegated_legislation
 - Statutory_instrument
 - Housing_stock_(asset)
 - Managed_housing_stock
 - Owned_housing_stock
 - Owned_land
 - Legal_entity**
 - Charitable_trust
 - Community_interest_company
 - Cooperative
 - Co-operative_society
 - Community_benefit_society
 - Pre_commencement_society_(registered_societies)
 - Industrial_provident_society
 - Mutual_provident_society
 - Limited_company
 - Statutory_corporation
 - Local_authority
 - Organisational_components
 - Articles_of_association
 - Company_director(s)
 - Correspondence_address
 - Company_secretary
 - Correspondence_address
 - Management_board
 - Organisational_policy
 - Allocations_criteria
 - Neighbourhood_management_policy
 - Tenant_participation_strategy
 - Value_for_money_statement
 - Registered_address
 - Persons_with_significant_control
 - Political
 - Professional_institution
 - Registered_charity
 - Regulator
 - Regulatory_guidance
 - Decent_Homes_guidance
 - Guidance_on_Rents_for_Social_Housing
 - Affordable_rent_terms
 - Regulatory_requirement
 - Asset_&_liability_registry
 - Business_plan
 - Governance_&_financial_viability_standard
 - Home_standard
 - Neighbourhood_&_community_standard
 - Rent_standard
 - Tenancy_standard
 - Tenant_involvement_&_empowerment_standard
 - Value_for_money_standard
 - Social_housing
 - Registered_provider

OWL Entity Description Editor

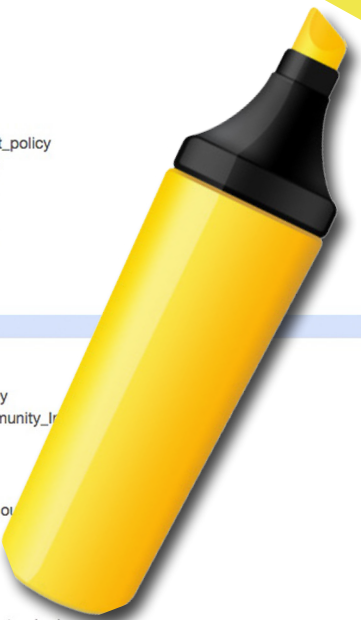
Class: Legal_entity

Annotations: [in root-ontology]
rdfs:label "Legal_entity"

SubClassOf: [in root-ontology]
owl:Thing,
is_managed_by some Management_board,
can_own some 'Housing_stock_(asset)'

SuperClassOf: [in root-ontology]
Cooperative,
Community_interest_company,
Limited_company,
Charitable_trust,
Statutory_corporation

Protégé - OWL classification of Regulator



Class Hierarchy

- owl:Thing
 - Advisory_body
 - Community_land_trust
 - Governing_legislation
 - Delegated_legislation
 - Statutory_instrument
 - Housing_stock(asset)
 - Managed_housing_stock
 - Owned_housing_stock
 - Owned_land
 - Legal_entity
 - Organisational_components
 - Articles_of_association
 - Company_director(s)
 - Correspondence_address
 - Company_secretary
 - Correspondence_address
 - Management_board
 - Organisational_policy
 - Allocations_criteria
 - Neighbourhood_management_policy
 - Tenant_participation_strategy
 - Value_for_money_statement
 - Registered_address
 - Persons_with_significant_control
 - Political
 - Professional_institution
 - Registered_charity
 - Regulator**
 - Companies_House
 - Financial_Conduct_Authority
 - Homes_and_Communities_Agency
 - Office_of_the_Regulator_of_Community_Interest_Companies
 - The_Charity_Commission
 - Regulatory_guidance
 - Decent_Homes_guidance
 - Guidance_on_Rents_for_Social_Housing
 - Affordable_rent_terms
 - Regulatory_requirement
 - Asset_&_liability_registry
 - Business_plan
 - Governance_&_financial_viability_standard
 - Home_standard
 - Neighbourhood_&_community_standard
 - Rent_standard
 - Tenancy_standard
 - Tenant_involvement_&_empowerment_standard
 - Value_for_money_standard
 - Social_housing
 - Registered_provider

OWL Entity Description Editor

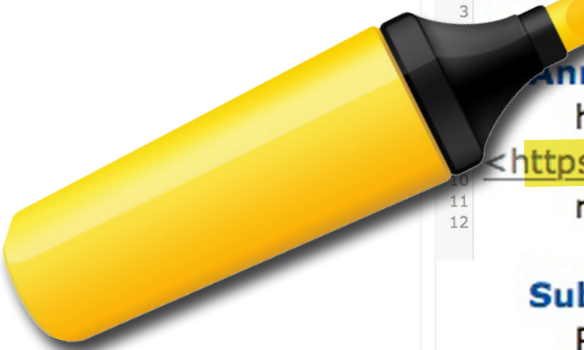
Class: Regulator

Annotations: [in root-ontology]
rdfs:label "Regulator"

SubClassOf: [in root-ontology]
owl:Thing,
sets **some** Regulatory_requirement,
is_advised_by **some** Professional_institution,
is_advised_by **some** Advisory_body

SuperClassOf: [in root-ontology]
Financial_Conduct_Authority,
Office_of_the_Regulator_of_Community_Interest_Companies,
Homes_and_Communities_Agency,
Companies_House,
The_Charity_Commission

Protégé - OWL classification of Rent_standard



Class Hierarchy

- owl:Thing
 - Advisory_body
 - Community_land_trust
 - Governing_legislation
 - Delegated_legislation
 - Statutory_instrument
 - Housing_stock(asset)
 - Managed_housing_stock
 - Owned_housing_stock
 - Owned_land
 - Legal_entity
 - Organisational_components
 - Political
 - Professional_institution
 - Registered_charity
 - Regulator
 - Companies_House
 - Financial_Conduct_Authority
 - Homes_and_Communities_Agency
 - Office_of_the_Regulator_of_Community_Interest_Companies
 - The_Charity_Commission
 - Regulatory_guidance
 - Decent_Homes_guidance
 - Guidance_on_Rents_for_Social_Housing
 - Affordable_rent_terms
 - Regulatory_requirement
 - Asset_&_liability_registry
 - Business_plan
 - Governance_&_financial_viability_standard
 - Home_standard
 - Neighbourhood_&_community_standard
 - Rent_standard**
 - Tenancy_standard
 - Tenant_involvement_&_empowerment_standard
 - Value_for_money_standard
 - Social_housing
 - Registered_provider

OWL Entity Description Editor

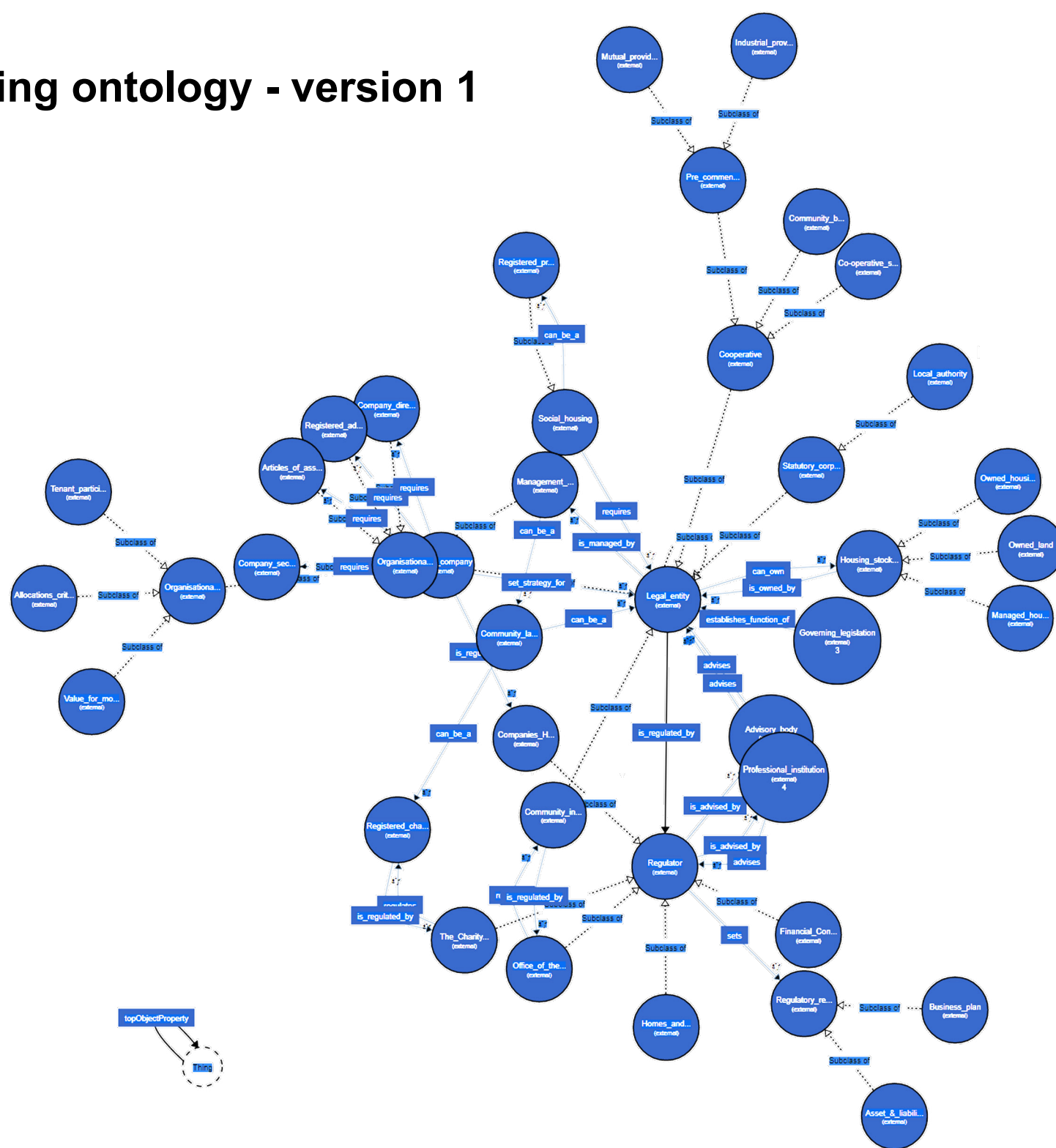
Class: Rent_standard

Annotations: [in root-ontology]
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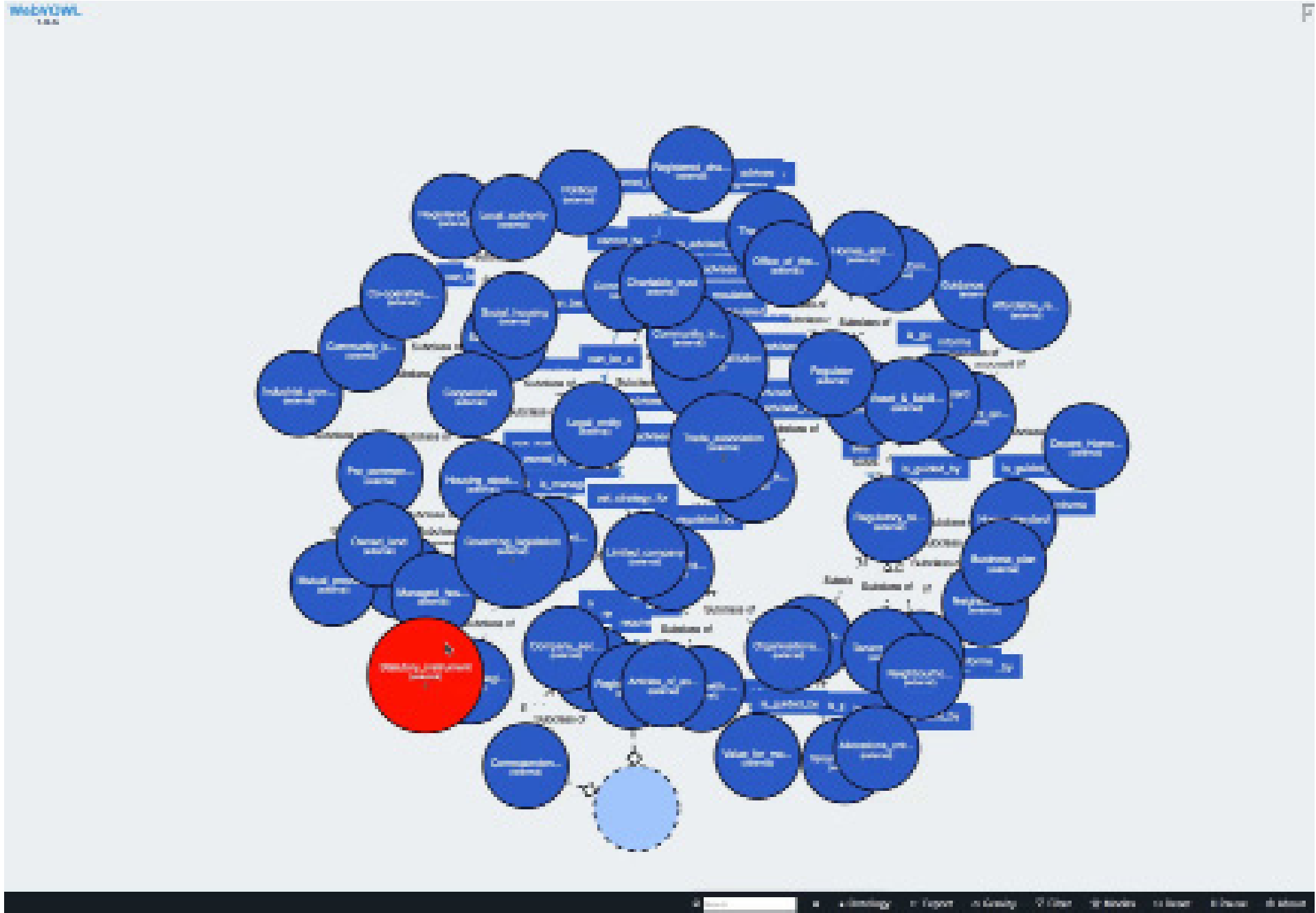
SubClassOf: [in root-ontology]
Regulatory_requirement,
is_guided_by **some** Guidance_on_Rents_for_Social_Housing

<https://protege.stanford.edu>

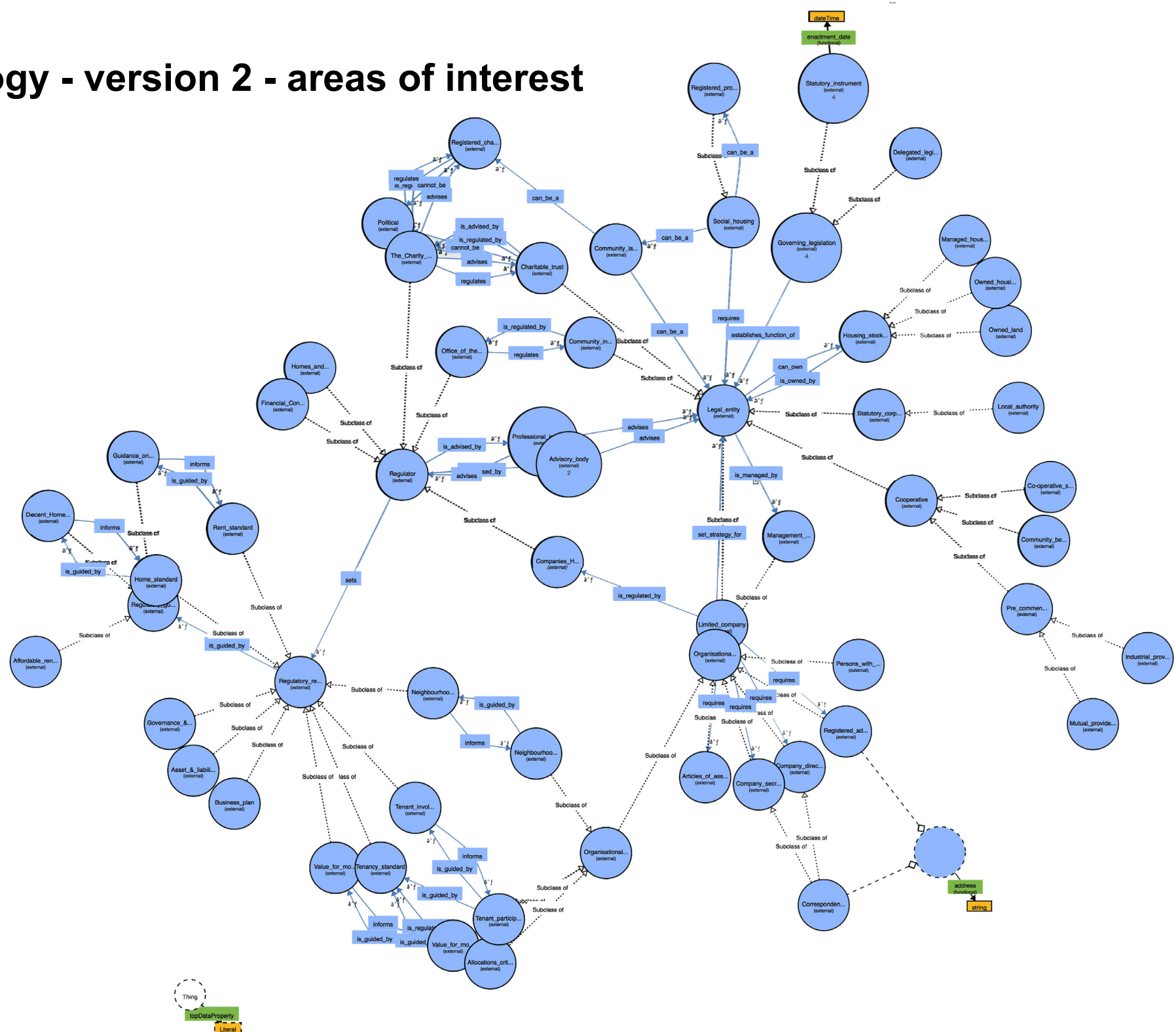
social housing ontology - version 1



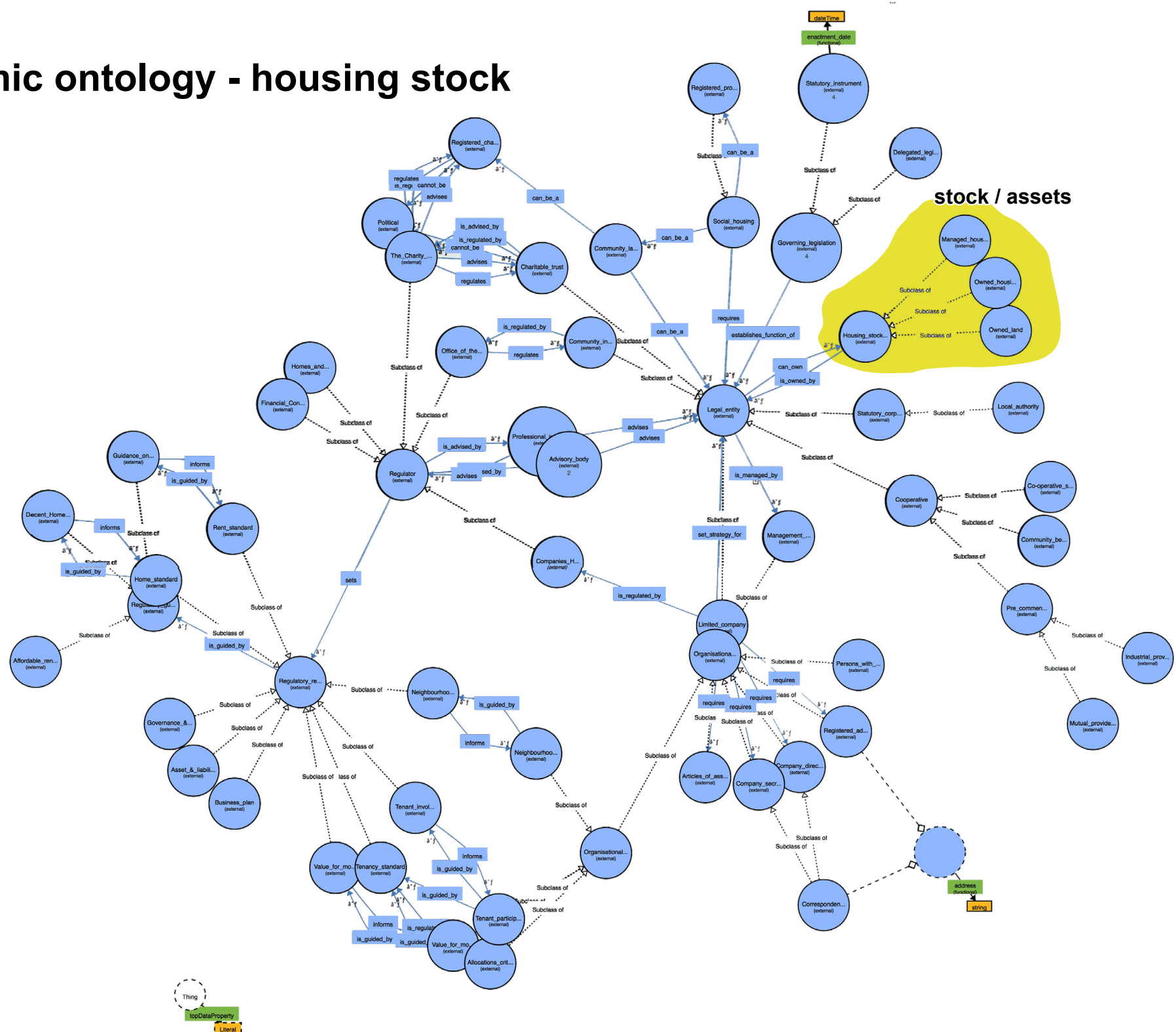
dynamic ontology - version 2



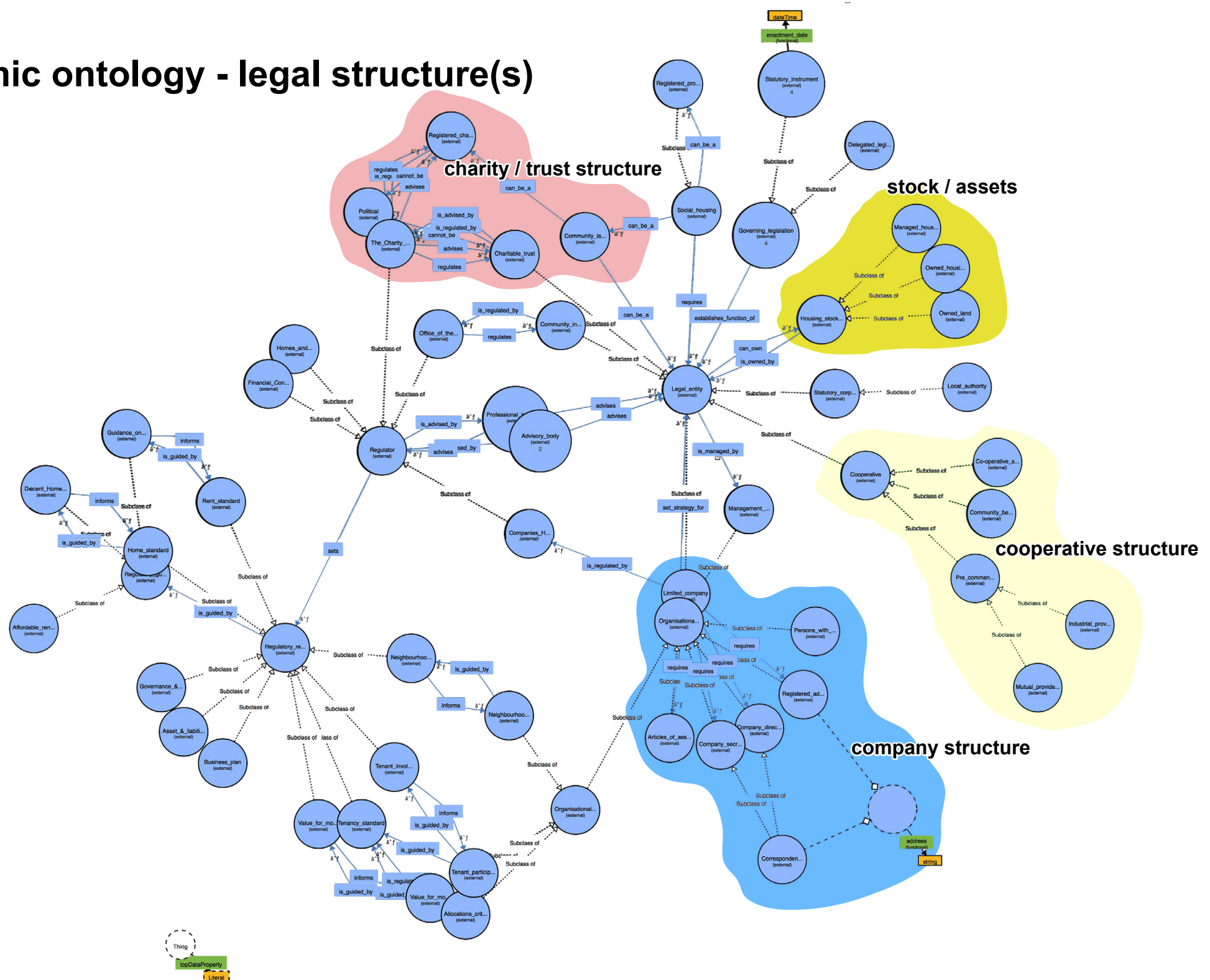
ontology - version 2 - areas of interest



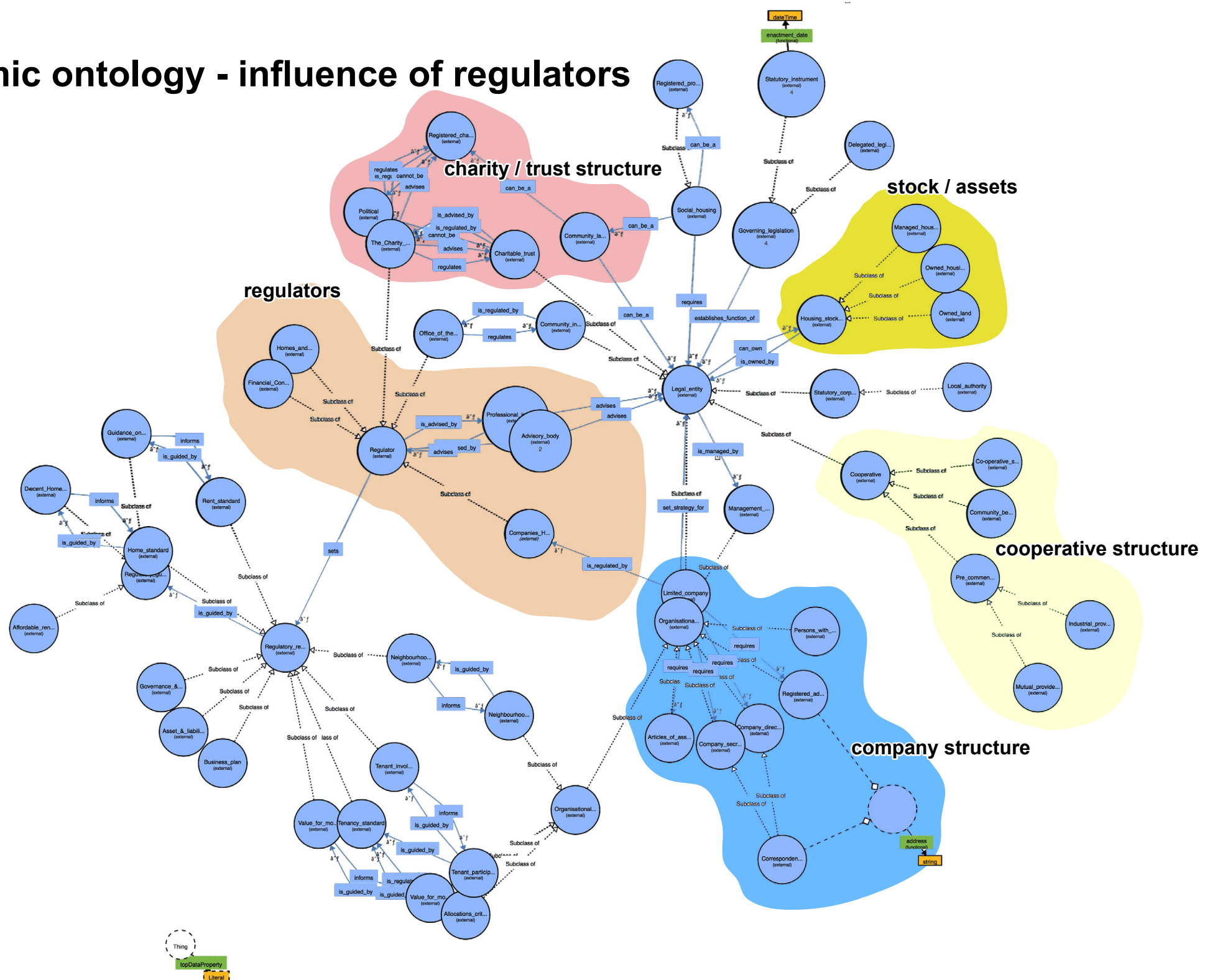
dynamic ontology - housing stock



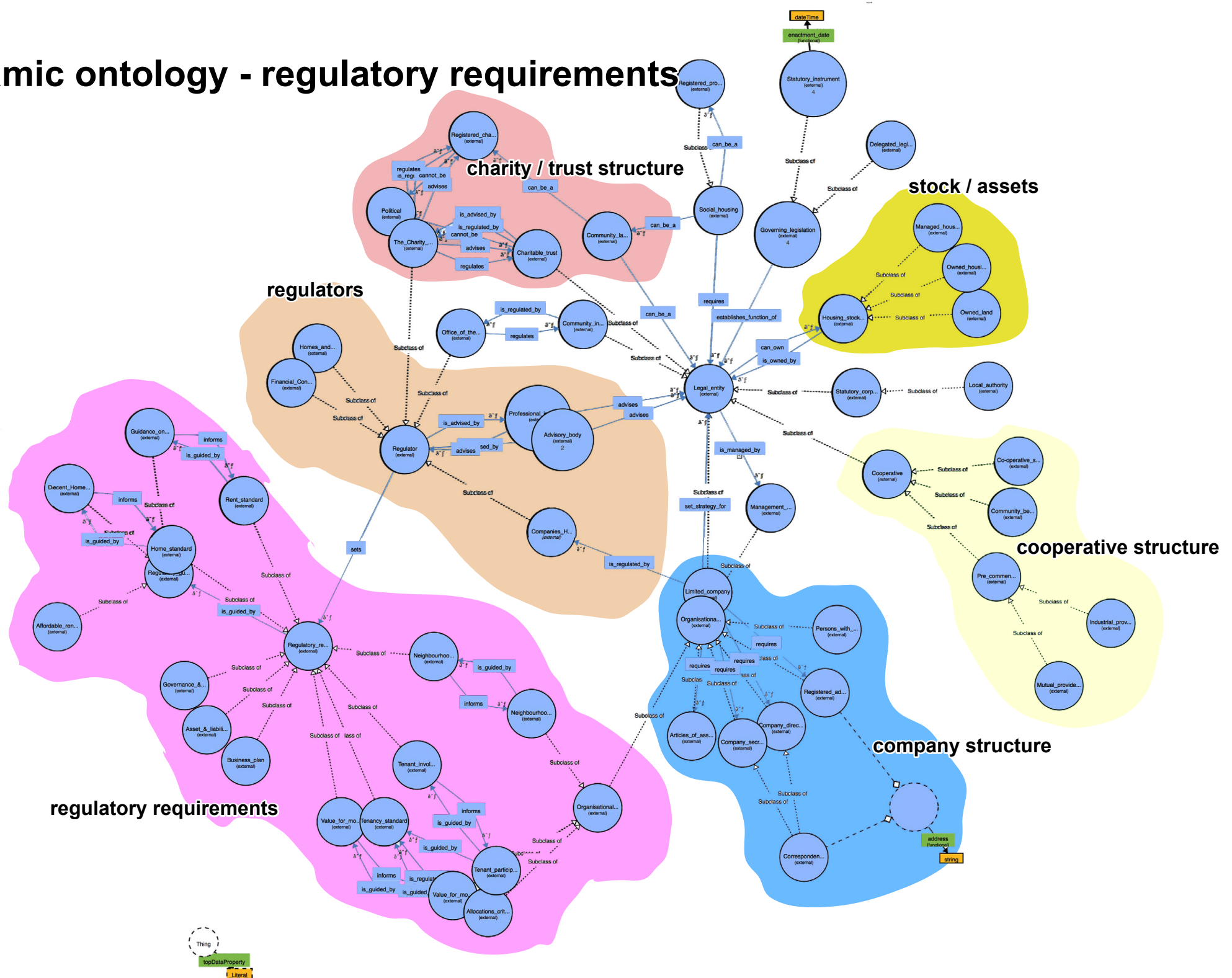
dynamic ontology - legal structure(s)



dynamic ontology - influence of regulators



dynamic ontology - regulatory requirements



Remains work in progress ... Thank you

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